

[0044] For example, the first light source **213** and the second light source **215** may be configured to include a fluorescent lamp such as a cold cathode fluorescent lamp (CCFL), a light emitting diode (LED), and the like. The first light source **213** and the second light source **215** may irradiate light toward the inside of the light guide plate **211** from the sides thereof.

[0045] The light guide plate **211** may be disposed in parallel to the display panel (see **403** of FIG. 1) and may have a quadrangular plate shape. For example, the light guide plate **211** may include a first incident surface and a second incident surface to which light is incident, an emitting surface which couples the first incident surface and the second incident surface and emits light, a reflection surface which couples the first incident surface and the second incident surface and faces the emitting surface, and the pattern **217** which is formed on the reflection surface to be spaced at a fixed interval and reflects the incident light to a direction within a preset threshold range. The direction within the preset threshold range may refer to the direction within the preset threshold range on the basis of a direction perpendicular to the reflection surface or the emitting surface of the light guide plate **211**. That is, a direction (e.g., a Z-axis direction; hereinafter, referred to as a direction perpendicular to the light guide plate **211**) perpendicular to a plane of the light guide plate **211**. For example, the direction within the preset threshold range may be a direction within a range of ± 20 to 30 degrees in the direction perpendicular to the light guide plate **211** to all directions. However, the value for the threshold range is not limited thereto.

[0046] The pattern **217** may be a prism formed on the reflection surface of the light guide plate **211** and may reflect light. A cross-section of the pattern **217** may have a right triangular shape, an asymmetrical triangular shape, a trapezoidal shape, or an elliptical shape. Exemplary embodiments are not limited to these.

[0047] A plurality of patterns **217** may be formed in the reflection surface of the light guide plate **211** and may be arranged in a 2D form. The plurality of patterns **217** may be formed as one line. That is, the plurality of patterns may constitute one line, and the light guide plate **211** may include a plurality of lines. The light reflected to the direction within the preset threshold range through the pattern **217** may be emitted to the outside of the light guide plate **211**, and thus, the pattern **217** may serve as a line light source. The direction within the preset threshold range may be the direction within the preset threshold range on the basis of the direction perpendicular to the light guide plate.

[0048] FIG. 3 is a diagram illustrating a cross-section of a first backlight according to an exemplary embodiment. Referring to FIG. 3, the first light source **213**, the second light source **215**, the pattern **217**, and the second backlight **407** are illustrated. The light irradiated from the first light source may be incident to the incident surface of the light guide plate and travel to the inside of the light guide plate, and the traveling light may be reflected to the direction within the preset threshold range through the pattern **217** formed in the reflection surface of the light guide plate and emit the outside of the light guide plate. The lights **221**, **223**, **225**, and **227** emitted to the outside of the light guide plate may be emitted like the line light in corresponding positions of the display panel, and a viewpoint image may be displayed in the display panel.

[0049] The second backlight **407** may serve as a surface light source, and emits light for 2D image display. That is, the second backlight **407** may emit light in the 2D image display, and the first light source **213** and the second light source **215** included in the first backlight may emit light in the 3D image display.

[0050] FIG. 4 is a diagram illustrating a shape of a pattern formed in a light guide plate according to an exemplary embodiment.

[0051] Referring to FIG. 4, the light guide plate **211**, the first light source **213**, and the second light source **215** are illustrated. The first light source **213** may be located close to a first side of the light guide plate **211**, and the second light source **215** may be located close to a second side of the light guide plate **211**. The first light source **213** and the second light source **215** may be disposed to face each other.

[0052] The first light source **213** and the second light source **215** may be configured using a plurality of light emitting diodes (LEDs). The first light source **213** may be disposed in an upper side of the light guide plate **211** and irradiate light toward the incident surface of the light guide plate **211**. The second light source **215** may be disposed in a position opposite to the first light source **211**, i.e., in a lower side of the light guide plate **211**, and may irradiate light toward the incident surface of the light guide plate **211**.

[0053] The light guide plate **211** may have a quadrangular plate shape. For example, the light guide plate **211** may be configured of a transparent plastic plate formed of an acrylic resin. All surfaces of the light guide plate **211** other than an internal reflection surface may be configured to be entirely transparent. For example, if the light guide plate **111** has a quadrangular plate shape, the emitting surface and four sides may be configured to be entirely transparent. The internal reflection surface may be mirror-finished to reflect light incident with an incident angle which satisfies a total reflection condition, and the light reflected to the direction within the preset threshold range on the basis of the direction perpendicular to the light guide plate **211** (i.e., the light which satisfies a total reflection condition may be emitted to the outside of the light guide plate).

[0054] A main pattern configured to reflect the incident light may be repeatedly arranged to be spaced at a fixed interval in the light guide plate **211**. The light guide plate **211** may be implemented in such a manner that the main pattern and a non-pattern region are alternately arranged at a preset interval. The main pattern may be configured of a plurality of sub patterns. That is, the main pattern may refer to a set of sub patterns.

[0055] For example, as illustrated in FIG. 4, a height of a sub pattern arranged in a light incident portion of the light guide plate close to a light source among the sub patterns constituting the main pattern may be smaller than that of a sub pattern arranged in a central portion of the light guide plate. Widths of the sub patterns constituting the main pattern of the light guide plate **211** may be equal to each other.

[0056] According to an exemplary embodiment, the sub patterns constituting the main pattern may be formed in such a manner that the heights of the sub patterns are gradually increased toward the central portion from the light incident portions close to the first and second light sources. FIG. 4 illustrates that a cross-section of the sub pattern is a symmetrical triangular shape, but the shape of the cross-section of the sub pattern is not limited thereto. For example, the sub